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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,328	10/22/2001	Thomas M. Marshall	US010528	4054

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

HODGES, MATTHEW P

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,328

Applicant(s)

MARSHALL ET AL.

Examiner

Matt P Hodges

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- ☐ Interview Summary (PTO-413) Paper No(s) ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically applicant has failed to properly define the term "horn-like" member and the term "horn-like" member has not attained an art recognized understanding in the field of LED collimators. A more complete definition or alternative description of the collimator shape should be including in the subsequent response. For the purposes of examination "horn-like" member will be understood to mean any structure where either the structure or a cross section of the structure has a shape which comes to two points at opposite ends of a flat surface and where the flat surface is the widest portion of the member.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 1,2, and 5-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Suehiro et al. (US 5,623,181).

Regarding claims 1, 2, and 5-8, Suehiro discloses (see figure 33) a light emitting diode chip package including a base, an array of light emitting diode chips (951) disposed on the base, and a collimator (954) mounted on the base over the array of diodes. The diodes are formed inline along the base. (Column 22 lines 30-37). Further the diode package includes individual diodes emitting red, green, and blue light which can be used together to emit a mixed color or white light. (Column 22 lines 8-23) and (Column 9 lines 20-24)

Regarding claim 9, the collimator is formed as a rectangular, horn-like member.

Regarding claims 10, and 11, the collimator has a first set of parabolic walls that collimate the light in one direction and a second set of flat walls that server to minimally collimate the light emitted from the diodes in a second direction. The first set of parabolic walls is bounded by the flat wall on one end and the inflection point at the opposite end. At the inflection point the walls reflect the light on the opposite side of the emitting diode chip.

Claims 1,2, and 5-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kelly. (US 6,454,437).

Regarding claims 1, 2, and 5-8, Kelly discloses (see figure 4) a light emitting diode chip package including a base (31), an array of light emitting diode chips (32) disposed on the base, and (see figure 3b) a collimator (24) mounted on the base over the array of diodes. (Column 6 lines 54-61). The collimator is a combined Fresnel and refractive lens. (Column 6 lines 28-35). The diodes are formed inline along the base and though not shown in the figure, are formed in a

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rectangle along a single plane. (Column 8 lines 37-40). Further the diode package includes individual diodes emitting red, green, and blue light which can be used together to emit a mixed color or white light. (Column 9 lines 48-50).

Regarding claims 13-16, Kelly discloses (see figure 5a) the use of several packages as described above to form a combined light emitting device. (Column 6 lines 62-67). Further as described above the diodes are formed inline along the base and though not shown in the figure, are formed in a rectangle along a single plane. (Column 8 lines 37-40). The diode package includes individual diodes emitting red, green, and blue light which can be used together to emit a mixed color or white light. (Column 9 lines 48-50).

Regarding claims 9 and 17, the collimator is formed as a rectangular, horn-like member.

Regarding claims 10, 11, and 18, the collimator has a first set of parabolic walls that collimate the light in one direction and a second set of flat walls that server to minimally collimate the light emitted from the diodes in a second direction. The first set of parabolic walls is bounded by the flat wall on one end and the inflection point at the opposite end. At the inflection point the walls reflect the light on the opposite side of the emitting diode chip.

Regarding claims 12 and 19, the diodes (see figure 5b) are connected to the base by bonding wires (46). (Column 7 lines 3-9).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (US 6,454,437) in view of Mizutani et al. (US 5,808,592)

Regarding claims 3 and 4, Kelly discloses (see rejection of claims 1 and 2 above) the apparatus as claimed but does not appear to specify the use of green LEDs on both ends of the rectangular structure. However Mizutani in the same field of endeavor discloses the use of varying amounts of colored LEDs to optimize the white color emitted. (Column 6 lines 20-49). The use of two green diodes for every one of the blue and red diodes allows for optimal white color temperature and luminescence. Further placing the green diodes on either side of the two red and blue diodes further helps to balance the overall color distribution. In the latter case the two outermost diodes are more negatively influenced by the close proximity to the edge of the emitter as compared to the two inner diodes. In this case the use of two diodes is better balanced to the use of one diode for each of the red and blue color range. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate two green diodes to the end of the linear array in the device as disclosed by Kelly in order to beneficially optimize the color and luminosity of the white output.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ozawa et al. (US 5,998,922) discloses the use of two green light emitting regions for each of the red and blue light emitting regions to balance the color intensities of the emitted light.


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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt P Hodges whose telephone number is (703) 305-4015. The examiner can normally be reached on 7:30 AM to 4:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

mph 
June 27, 2003


NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800